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Amendment to the Claims:

Please amend Claims 8-16 as set forth below.

1-7. (Canceled)

8. (Currently amended) A process for preparing a hemoglobin molecule (Hb) modified to have on average six ± one polyethylene glycol (PEG) chains, comprising the steps of:

- (a) reacting Hb with 8-15 fold molar excess of iminothiolane to form thiolated Hb; and
- (b) reacting the thiolated Hb with 16-30 fold molar excess of PEG functionalized with a maleimide moiety, to form the modified Hb having on average six ± one PEG chains.

9. (Currently amended) The process of Claim 8, wherein Hb is reacted with 9-12 fold molar excess iminothiolane in step (a).

10. (Currently amended) The process of Claim 8, wherein Hb is reacted with about 10 fold molar excess iminothiolane in step (a).

11. (Currently amended) The process of Claim 8, wherein the thiolated Hb is reacted with 18-22 fold molar excess PEG functionalized with a maleimide moiety in step (b).

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12. (Currently amended) The process of Claim 8, wherein the thiolated Hb is reacted with about 20 fold molar excess PEG functionalized with a maleimide moiety in step (b).

13. (Currently amended) The process of Claim 8, wherein Hb is reacted with 9-12 fold molar excess iminothiolane in step (a), and the thiolated Hb is reacted with 18-22 fold molar excess PEG functionalized with a maleimide moiety in step (b).

14. (Currently amended) The process of Claim 8, wherein Hb is reacted with 9-12 fold molar excess iminothiolane in step (a), and the thiolated Hb is reacted with about 20 fold molar excess PEG functionalized with a maleimide moiety in step (b).

15. (Currently amended) The process of Claim 8, wherein Hb is reacted with about 10 fold molar excess iminothiolane in step (a), and the thiolated Hb is reacted with 18-22 fold molar excess PEG functionalized with a maleimide moiety in step (b).

16. (Currently amended) The process of Claim 8, wherein Hb is reacted with about 10 fold molar excess iminothiolane in step (a), and the thiolated Hb is reacted with about 20 fold molar excess PEG functionalized with a maleimide moiety in step (b).

17. (Previously presented) The process of Claim 8, wherein PEG has a molecular weight of 3000-10,000 daltons.

18. (Previously presented) The process of Claim 8, wherein PEG has a molecular weight of about 5,000 daltons.

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19. (Previously presented) The process of Claim 8, wherein the modified Hb does not produce hypertension in a subject.

20. (Previously presented) The process of Claim 17, wherein the modified Hb does not produce hypertension in a subject.

21. (Previously presented) The process of Claim 18, wherein the modified Hb does not produce hypertension in a subject.

22-28. (Canceled)